

1) $1 + \log_m^n = b \quad \log_m^{n+1} = \frac{1}{b+1} = 1 + \underbrace{\log_m^n}_{\frac{1}{a}}$ (2)

$\Rightarrow b = \frac{a}{a+1} + 1 \Rightarrow [b] = 1$ ✓

2)

الف) $x > 0 \Rightarrow \frac{0}{-1} + \frac{1}{-} \Rightarrow \underline{0 < x < 1}$ ✓ (2)

ب) $x^2 - x - 2 > 0, x^2 - 1 \geq 0 \Rightarrow \underline{(-\infty, -1) \cup (2, +\infty)}$ ✓

ج) $2 \log_9^a + \log_a^r = 2 \Rightarrow \log_r^a + \log_a^r = 2 \Rightarrow t + \frac{1}{t} = 2$ (2)

$t = 1 \Rightarrow \log_r^a = 1 \Rightarrow \underline{a = r}$ ✓

د) $\log 0 = 0, \forall \Rightarrow \log 0 - \log^r = 0, \forall$ } $\begin{cases} r x^r + 9 x - 11 = 0 \\ 2 \log^r = \log 9 = 0, 8 \\ \log 12 = \log^r + \log 6 = 1, 1 \end{cases}$ (2)

$\frac{\sqrt{\Delta}}{2a}$

$\frac{\sqrt{7 \cdot 8 + 1 \cdot 12}}{1} = \frac{12}{1}$ ✓

$$\textcircled{a} \frac{\log_r^r}{\log_r^r} = r/n \Rightarrow \log_r^r = r/n \quad \frac{\log_r^r}{\log_r^d} = \frac{1}{r} \Rightarrow \log_r^d = r$$

$$\frac{\log_r^{10}}{\log_r^r} = \frac{1 + \log_r^d}{1 + \log_r^r} = \frac{r}{r/n} = \frac{r_0}{rn} \quad \checkmark \quad \textcircled{r}$$

$$\textcircled{y} \log_r^d = 1/d = \frac{r}{r} \quad \frac{\log_r^r}{\log_r^r} = \frac{1}{d} \Rightarrow \log_r^r = \frac{d}{n} \quad \textcircled{r}$$

$$\frac{\log_r^r}{\log_r^d} = \frac{1 + \log_r^r}{1 + \log_r^d} = \frac{1r}{r_0} \quad \checkmark$$

$$\textcircled{v} \frac{1}{r} (\log_r^r) = m \Rightarrow rn = 1 + r \log_r^r \Rightarrow \frac{rn-1}{r} = \log_r^r$$

$$\log_r^r = \frac{1}{r} (r + \log_r^r) = \frac{1}{r} \left(\frac{rn+r}{r} \right) = \frac{rn+r}{r} \quad \checkmark \quad \textcircled{r}$$

$$\textcircled{A} \left(\frac{r}{d} \right)^{rn-1} = \left(\frac{d}{r} \right)^{rn} \Rightarrow rn^r + rn - 1 = 0 \Rightarrow n = \frac{1}{r} - 1 \quad \text{غير صحيح}$$

$$\log_n^{9 \times \frac{1}{r} + 1} = \log_n^r = \frac{r}{r} \quad \checkmark \quad \textcircled{r}$$

$$\textcircled{a} \frac{1}{r} \log_r^b = \frac{r}{r} (1+a) = r+ra \Rightarrow 1+a = \log_r^r \Rightarrow a = \log_r^{\frac{r}{r}}$$

$$\Rightarrow \frac{r}{r} = r \quad b=r \quad \log_{19}^{r \times r - 1} = r \quad \checkmark$$

Date _____

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(10) $\frac{b}{ra} = s \quad \frac{1}{s} = \log r = \frac{ra}{b} \quad ra = c + b \Rightarrow ra - c = b$ (11)

$$\log r = \frac{ra}{ra - c} \Rightarrow \frac{r}{\log r} = r - \frac{c}{b} \Rightarrow \frac{c}{a} = \frac{r \log r - r}{\log r} = \log \frac{1}{r}$$
$$= \frac{r}{r} \times \log_r r = -r \log_r r = \underline{\underline{\frac{r}{\sqrt{a}}}} \quad \checkmark$$